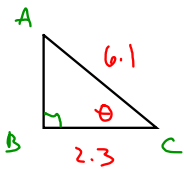
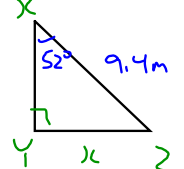


Trig Opener Primary Trig Ratios

Find $\angle \theta$

1) 

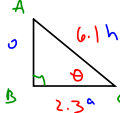
Find Side x

2) 

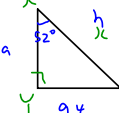
Apr 7-2:36 PM

Trig Opener Primary Trig Ratios

Find $\angle \theta$

1) 

Find Side x

2) 

Solve CAH TOA

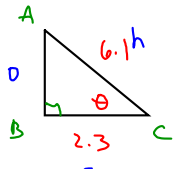
$\cos \theta = \frac{A}{H}$
 $\cos \theta = \frac{2.3}{6.1}$
 $\cos \theta = 0.3770$
 $\theta = \cos^{-1}(0.3770)$
 $\theta = 68^\circ$

$\sin 52^\circ = \frac{O}{H}$
 $\sin 52^\circ = \frac{9.4}{h}$
 $h = \frac{9.4}{\sin 52^\circ}$
 $h = \frac{9.4}{0.7880}$
 $h = 11.9$

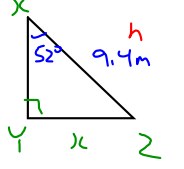
Apr 7-2:36 PM

Trig Opener Primary Trig Ratios

Find $\angle \theta$

1) 

Find Side x

2) 

Solve CAH TOA

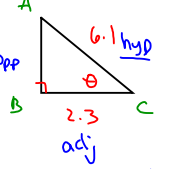
$\cos \theta = \frac{A}{H}$
 $\cos \theta = \frac{2.3}{6.1}$
 $\cos \theta = (0.3770)$
 $\theta = \cos^{-1}(0.3770)$
 $\theta = 68^\circ$

$\sin 52^\circ = \frac{O}{H}$
 $\sin 52^\circ = \frac{x}{9.4}$
 $9.4 \sin 52^\circ = x$
 $9.4(0.7880) = x$
 $7.4 = x$

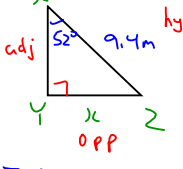
Apr 7-2:36 PM

Trig Opener Primary Trig Ratios

Find $\angle \theta$

1) 

Find Side x

2) 

Solve CAH TOA

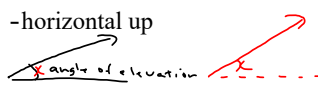
$\cos \theta = \frac{A}{H}$
 $\cos \theta = \frac{2.3}{6.1}$
 $\cos \theta = (0.3770)$
 $\theta = \cos^{-1}(0.3770)$
 $\theta = 68^\circ$

$\sin 52^\circ = \frac{O}{H}$
 $\sin 52^\circ = \frac{x}{9.4}$
 $9.4 \sin 52^\circ = x$
 $9.4(0.7880) = x$
 $7.4m = x$


Apr 7-2:36 PM

p 274 Angle of Elevation (Inclination)

-horizontal up



Angle of Depression
horizontal down (Declination)



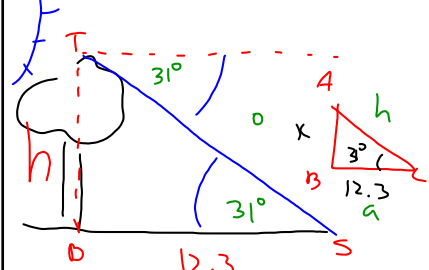
2 pattern
alternating angles

angle of depression =
angle of elevation

Apr 6-10:12 AM

Trig Word Problems

i.e. A Tree casts a shadow 12.3 m long. If the angle of elevation of the sun's rays are 31° , how tall is the tree? (round to the nearest tenth)



Solve CAH TOA

Apr 7-1:45 PM

SOH CAH TOA

$$\tan 31^\circ = \frac{x}{12.3}$$

$$12.3 \tan 31^\circ = x$$

$$12.3 (0.6009) = x$$

$$7.4 = x$$

The tree is 7.4m tall.

Apr 7-1:52 PM

A helicopter hovers 500m above a long straight road. Ahead of the helicopter on the road are two trucks. The angles of depression of the two trucks are 60° and 20° (respectively). How far apart are the two trucks?

Apr 7-1:54 PM

A helicopter hovers 500m above a long straight road. Ahead of the helicopter on the road are two trucks. The angles of depression of the two trucks are 60° and 20° respectively. How far apart are the two trucks?

$y = x' - x$

Apr 7-1:54 PM

$$\tan 60^\circ = \frac{500}{a}$$

$$a = \frac{500}{\tan 60^\circ}$$

$$a = \frac{500}{1.7321}$$

$$a = 288.7$$

Oct 29-9:16 AM

$$\tan 20^\circ = \frac{500}{a}$$

$$a = \frac{500}{\tan 20^\circ}$$

$$a = \frac{500}{0.3640}$$

$$a = 1373.6$$

$$1373.6 - 288.7 = 1084.9$$

The trucks are 1084.9m apart.

Oct 30-8:37 AM

Truck 2

SOH CAH TOA

$$\tan 70^\circ = \frac{500}{a}$$

$$\tan 70^\circ = \frac{z}{500}$$

$$\tan 70^\circ (500) = z$$

$$2.7475 (500) = z$$

$$1373.7 = z$$

$$1373.7 - 288.7$$

$$= 1085m \text{ apart}$$

The two trucks are 1085m apart

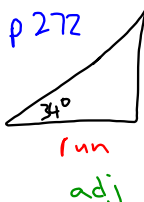
Apr 6-10:34 AM

p 271-273

q.3-6, 8-10,12a, 13, 14

Apr 7-2:09 PM

12) p 272



SOH CAH TOA

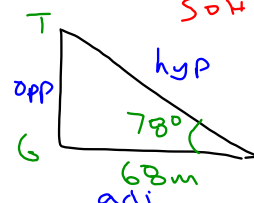
$$\frac{\text{rise}}{\text{run}} = \frac{1.0}{1.6}$$

1.0 safe
1.0 > planks
1.6 > scaffolding

$\tan \theta = 1.6$
 $\tan \theta = 1.0$
 $\theta = \tan^{-1}(1.6) = 58^\circ$
 $\theta = \tan^{-1}(1.0) = 45^\circ$

Apr 7-2:23 PM

6 a)



SOH CAH TOA

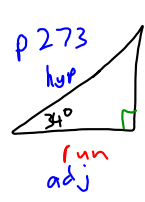
$$\tan 78^\circ = \frac{t}{6.8}$$

$$6.8(\tan 78^\circ) = t$$

$$320.0 = t$$

Apr 7-2:28 PM

12) p 273



SOH CAH TOA

$$\frac{\text{rise}}{\text{run}} = \frac{1.0}{1.6}$$

1.0-1.6 - planks
1.6 + - scaffolding

$\tan 34^\circ =$
 $\tan \theta = 1.0$
 $\theta = \tan^{-1}(1.0) = 45^\circ$
 $\tan \theta = 1.6$
 $\theta = \tan^{-1}(1.6) = 58^\circ$

34° = no safety precautions
 60° = scaffolding
 51° = planks

Nov 10-7:59 AM

<http://cordickcorner.wikispaces.com>

Nov 10-9:36 AM